

We Claim:

- 1 1. A system for processing trades of securitized instruments based on security orders and  
2 quotes received from client computers, comprising:  
3 at least one server computer comprising a memory, and a processor, said server computer  
4 configured to perform the steps of:  
5 receiving orders and quotes, wherein specified ones of said quotes belong to a  
6 quote group, and wherein said specified ones of said quotes have associated trading  
7 parameters comprising a risk threshold;  
8 generating a trade by matching said received orders and quotes to previously  
9 received orders and quotes;  
10 storing each of said orders and quotes when a trade is not generated;  
11 determining whether a quote having associated trading parameters has been  
12 filled as a result of the generated trade, and if so, determining a risk level and an  
13 aggregate risk level associated with said trade;  
14 comparing said aggregate risk level with said risk threshold; and,  
15 automatically modifying at least one of the remaining said specified ones of said  
16 quotes in the quote group if said threshold is exceeded.
- 1 2. The apparatus of claim 1 further comprising a quote data structure stored in said first  
2 memory, said data structure containing a plurality of quotes fields and at least one risk  
3 threshold field.
- 1 3. The apparatus of claim 2, wherein said plurality of quote fields comprises a bid quote  
2 field and an offer quote field.
- 1 4. The apparatus of claim 2, wherein said data structure further comprises a group  
2 indicator field.

1 5. The apparatus of claim 2, wherein said data structure further comprises a quote  
2 modification increment field.

1 6. The apparatus of claim 2, wherein said data structure further comprises a quote  
2 regeneration increment field.

1 7. The apparatus of claim 2, wherein said data structure further comprises an owner field.

1 8. A method of modifying quotes in an automated exchange trading system that receives  
2 orders and quotes from remote computers, matches the orders and quotes to generate  
3 trades, and stores orders and quotes that are unmatched, comprising the steps of:

4 receiving trading parameters comprising a risk threshold;

5 associating said trading parameters with specified ones of received quotes;

6 determining whether a quote having associated trading parameters has been  
7 filled as a result of a generated trade, and if so, determining a risk level and an  
8 aggregate risk level associated with said trade;

9 comparing said aggregate risk level with said risk threshold; and,

10 automatically modifying at least one of the specified ones of received quotes if  
11 said threshold is exceeded.

1 9. The method of claim 8 wherein the step of determining a risk level comprises  
2 calculating a delta value for the generated trade.

1 10. The method of claim 8 wherein the step of determining a risk level comprises  
2 calculating a trading volume for the generated trade.

1 11. The method of claim 8 wherein the step of determining an aggregate risk level  
2 comprises determining a net delta.

1 12. The method of claim 8 wherein the trading parameters further comprise a time duration,  
2 and wherein the step of determining an aggregate risk level comprises summing the  
3 deltas from trades involving at least a subset of quotes contained in said quote group  
4 that were executed within the time duration.

- 1 13. The method of claim 8 wherein the trading parameters further comprise an integer N,  
2 and wherein the step of determining an aggregate risk level comprises summing the  
3 deltas from the most recent N trades involving at least a subset of quotes contained in  
4 said quote group.
- 1 14. The method of claim 8 wherein the step of determining an aggregate risk level  
2 comprises determining a net contract volume.
- 1 15. The method of claim 8 wherein the step of determining an aggregate risk level  
2 comprises determining a weighted sum of contract volumes.
- 1 16. The method of claim 8 wherein the step of determining an aggregate risk level  
2 comprises determining an aggregate volume quantity.
- 1 17. The method of claim 8 wherein the step of automatically modifying at least one of the  
2 specified ones of said received quotes comprises canceling all said specified ones of  
3 said received quotes.
- 1 18. The method of claim 8 wherein the step of automatically modifying at least one of the  
2 specified ones of said received quotes comprises reducing the quantity associated with  
3 the specified ones of received quotes.
- 1 19. The method of claim 8 wherein the step of automatically modifying at least one of the  
2 specified ones of said quotes comprises revising at least one of the bid and offer values  
3 of each of the specified ones of received quotes.
- 1 20. The method of claim 8 wherein the trading parameters comprise a positive risk  
2 threshold and a negative risk threshold.
- 1 21. The method of claim 20 wherein the step of comparing the aggregate risk level with the  
2 risk threshold comprises comparing the aggregate risk level to the positive risk  
3 threshold if the aggregate risk level is positive, and comparing the aggregate risk level  
4 to the negative risk threshold if the aggregate risk level is negative.

1 22. The method of claim 8 wherein the step of comparing the aggregate risk level with the  
2 risk threshold comprises comparing the absolute value of the aggregate risk level to the  
3 risk threshold.

1 23. The method of claim 8 wherein each of the specified ones of received quotes are  
2 associated with one of a first subgroup and second subgroup, and wherein the step of  
3 automatically modifying at least one of the specified ones of received quotes in the  
4 quote group comprises reducing the offer values of the quotes in the first subgroup and  
5 raising the bid values of the quotes in the second subgroup.

1 24. The method of claim 23 wherein the first subgroup comprises quotes on call series  
2 options and the second subgroup comprises quotes on put series options, and wherein  
3 the aggregate risk is positive.

1 25. The method of claim 23 wherein the first subgroup comprises quotes on put series  
2 options and the second subgroup comprises quotes on call series options, and wherein  
3 the aggregate risk is negative.

1 26. The method of claim 23 where the amount of said reducing and raising is determined in  
2 response to a modification increment parameter.

1 27. The method of claim 8 further comprising the step of automatically modifying a quote  
2 comprises regenerating a quote having associated trading parameters that has been filled  
3 as a result of the generated trade.

1 28. The method of claim 27 wherein the step of regenerating a quote is performed utilizing  
2 a regeneration increment.

1 29. In a system, for processing trades of a security, that includes a computer that receives  
2 orders and quotes, executes a trade by matching the received orders and quotes, and  
3 stores received orders and quotes for which a trade is not executed, a computer-based  
4 risk monitoring apparatus, comprising:

5 a quote service module that associates market-maker trading parameters comprising  
6 a risk threshold with at least one received quote; and

7 a broker service module that communicates with the quote service module, wherein  
8 the broker service module automatically executes trades and provides corresponding fill  
9 reports to said quote service module, and wherein the quote service module modifies  
10 received quotes in accordance with the trading parameters and the fill reports.

11

1 30. In a system for processing trades of securitized instruments, the system including a  
2 computer having a memory and a processor, said computer being configured to perform  
3 the steps of receiving orders and quotes, generating a trade by matching said received  
4 orders and quotes to previously received orders and quotes, and storing each of said  
5 orders and quotes if a trade is not generated, a method for managing risk comprising the  
6 steps of:

7 identifying specified ones of said quotes as belonging to a quote group;

8 associating trading parameters comprising a risk threshold with specified ones of  
9 said quotes;

10 determining whether a quote having associated trading parameters has been filled as  
11 a result of the generated trade, and if so, determining an aggregate risk level associated with  
12 said trade;

13 comparing said aggregate risk level with said risk threshold; and

14 automatically modifying at least one of the remaining said specified ones of said  
15 quotes in the quote group if said threshold is exceeded.